REPORT OF A CASE OF RECOVERY AFTER GASTRECTOMY FOR CARCINOMA.[1]

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INASMUCH as the stomach is frequently the seat of malignant disease, its early recognition, if surgical treatment shall be applied, is imperative. Cancerous affections appearing in other regions of the body have long ago been handed over to the surgeon the moment suspicion was aroused concerning its character.

Total extirpation of the growth in its earliest stage, if possible before regional involvement has taken place, is conceded by all to be the only treatment.

The diagnosis of carcinoma of the stomach, if a tumor can be felt, is comparatively easy, but the instances in which a neoplasm can be mapped out are unfortunately more than common.

The case under consideration gave the. following history on entering the Troy Hospital on May 11, 1899. Woman, aged forty-six years; married; six children; father died of tuberculosis; mother and seven sisters alive and well; no history of malignant disease; never had any serious illness; present trouble began November, 1897, with fulness in the epigastrium, eructation of gas and burning in the stomach. Pain was an early manifestation; was relieved after taking food, but returned again in the interval of her meals. The pain caused her sleepless nights; she often sat up in bed stooped over, making pressure on her stomach, which seemed to relieve her. She had little or no vomiting at first, and never vomited blood at any time. In May, 1898, she discovered a mass in the epigastrium, which gradually increased in size. Loss of flesh and strength from now on was quite apparent. In March, 1899, she began rejecting her food, and rapid emaciation was the consequence. Sleep was difficult to obtain on account of the pain, and for which, so far as she knows, she never took anodynes. Obstinate constipation throughout. No urinary disturbance except scantiness.

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May 12, 1899.—Examination: The patient presents an exceedingly emaciated appearance. Muscles soft and flabby. Skin dry, and countenance decidedly weary. Abdominal wall thin. On inspection of abdomen, a rounded mass occupying the epigastrium is indistinctly seen. On palpation, a well-defined tumor, quite resisting and not particularly movable, lies between the ensiform cartilage and the umbilicus, and sensitive on manipulation. The pain and continuous vomiting had compelled her to take to her bed. Her physical state was such that a comparatively short time under the existing circumstances must terminate her life.

Although little hope of relief from an operative stand-point presented itself, I decided, at the request of the patient and her husband, to make an exploratory opening, which I did on May 15, 1899, in the presence of Drs. Barnes, Fairweather, O'Brien, and Gravatt. The abdominal wall was thin; practically no adipose layer. On reaching the peritoneum, it was found adherent to the mass. Careful division of this layer for a short distance permitted us to introduce the finger and separate the adherent surfaces. The peritoneum was then opened corresponding to the length of the incision in the abdominal wall, which was about three and one-half inches. The stomach was found to be the seat of the disease, but its attachments to the surrounding parts were so intimate that further progress with the operation seemed inadvisable.

A loop of intestine, with intervening omentum, was found adherent to the stomach wall on the side of the greater curvature, midway between the cardiac and pyloric orifices, and in effecting its separation its lumen was lacerated through and required suturing.

The condition of the patient at this time was extreme, and I decided to abandon further work; but as after transfusing the patient and administering stimulants he rallied somewhat, I continued. When the gastro-hepatic and gastro-colic omenta were divided, serious adhesions were found existing posteriorly between the tumor and the great vessels. Trusting, however, that these might be dealt with, I divided the duodenum as near to the entrance of the bile-duct as was compatible with effecting a safe anastomosis, the pylorus being distinctly involved in what seemed to be a malignant process.

The divided duodenum was held with a gauze sponge and the pyloric orifice clamped. The pylorus was lifted up, and the process of liberating the adhesions begun. All bleeding points were ligated with catgut, and finally the entire organ was delivered through a comparatively small incision.

The excision of the mass was made above the area of apparent involvement, which was one inch from the cardiac end on the side of the lesser curvature, and about one-third of an inch on the side of the great curvature.

The walls at this point were, however, greatly thickened, and contained areas of apparent infiltration. This remaining portion was removed with scissors, and the entire stomach in consequence taken away.

The œsophagus, which was inclined to retract, was secured with sutures and held down. A number of enlarged glands were dissected out, and all tissue bearing evidence of regional infection was removed.

The task of making a satisfactory anastomosis was now to be thought of, and the duodenum was, without much difficulty, brought in apposition with the œsophagus, and, after securing the parts with catgut, a final row of Lembert silk sutures completed the operation.

The peritoneum was closed with plain catgut, and chromicized catgut for the abdominal wall.

The entire time consumed, from the first incision until the abdomen was closed, was one hour and five minutes. There was little or no loss of blood.

May 15.—Patient went to etherizing-room at 9.30 A.M., and returned to the ward at 12.15 P.M. Vomited a small quantity of dark-brown fluid. Continued very restless during the entire afternoon and night, and occasionally eructated a mouthful of dark-brown liquid. Was given strychnia, one-thirtieth of a grain, hypodermically, every three hours; whiskey, peptonized milk, beef-juice, per rectum, every four hours. Temperature, 6 P.M., 100.4° F.; pulse, 96.

May 16.—Vomited, on an average, every four hours, a small quantity of dark-brown material, having at times a distinct fæcal odor. Great pain in mid-dorsal region, coming on intermittingly, subsiding after a few hours. Patient becoming more comfortable, and securing one hour's sleep at intervals. Rectal enemata, consisting of beef-juice, panopeptone, white of eggs, and whiskey, given to the point of toleration, which were retained. Hypodermics of strychnia, one-fortieth of a grain, every three hours. Temperature, 8 A.M., 100° F.; pulse, 108; 7 P.M., temperature, 100.2° F.; pulse, 94.

May 17.—Patient very comfortable and cheerful; nausea and vomiting entirely controlled. Nutrient enemata, consisting of eggs, panopeptone, beef-juice, peptonized milk, and whiskey, every four hours. Temperature, 9 A.M., 100° F.; pulse, 120; 7 P.M., temperature, 99.2° F.; pulse, 102.

May 18.—Slept considerably; is very comfortable; bowels moved; complained of colicky pains, which passed off on expelling a large amount of flatus. Nourishment kept up in same way, and hypodermics of strychnia continued. Temperature, 9 A.M., 98.4° F.; pulse, 94; 6 P.M., temperature, 100° F.; pulse, 104.

May 19.—Complains of great hunger and thirst. Tablespoonfuls of water given frequently, which caused no discomfort. Nutrient enemata continued. Strychnia given by mouth. Temperature, 9 A.M, 98.4° F.; pulse, 92; 6 P.M., temperature, 99.4° F.; pulse, 102.

May 20 to 22, inclusive.—Very cheerful; more comfortable than in many months, securing a natural amount of sleep. Has had no anodynes since the operation. Given freely of water, an ounce at a time, but no nourishment allowed by mouth. One stool fairly normal. Temperature normal; pulse ranging from 86 to 92.

May 23.—Allowed nourishment by mouth for first time,—beef-tea, milk, and water, one ounce alternately every two hours. Wound examined and found perfectly healed. The temperature normal; pulse 90.

May 24.—Slept well during the night; very cheerful. Breakfast, soft-boiled egg, slice of toast, and one cup of tea. Same for dinner. Took during the day and night thirty-two ounces of milk, one small cup of gruel, and two ounces of beef-tea. Temperature normal; pulse 84.

May 25 to 31, inclusive.—Continued to take milk in large quantities, eggs in different forms, toast, beef-juice, and tea. The history otherwise uneventful. Bowels moving daily and natural.

June 1.—Breakfast, milk toast, poached eggs, coffee four ounces, one glass of milk. Dinner, broth, four ounces, toast, poached egg, tea, and one glass of milk. One pint of milk taken during the day in addition to above. Temperature normal; pulse 80.

June 2.—Breakfast, milk toast, poached eggs, baked potato, coffee one cup. Dinner, soup four ounces, crackers, roast beef, mashed potatoes, and ice-cream. In addition to this, patient took liberally of milk. Subsequent to this date she was given regular meals without restriction, and experienced no inconvenience whatever.

June 7.—Sat up for one hour. No pain; some slight sense of dragging in the epigastrium. Continued to sit up every day, becoming much more cheerful, increasing rapidly in strength. Appetite good, and no distress following the ingestion of food.

June 25.—Left the hospital after taking a dinner consisting of roast beef, mashed potatoes, ice-cream, cup of coffee, and one glass of milk.

Report of DRS. GEORGE BLUMER *and* H. O. FAIRWEATHER, *Pathologists.*

Specimen is one of stomach removed at operation by Dr. Harvie. There is present in the specimen about four-fifths of the entire organ, together with about three centimetres of the duodenum.

The organ itself is much contracted, and measures 14 x 6 x 5 centimetres. It is covered by a smooth, pinkish-white membrane, and the blood-vessels are plainly marked.

Along the lower border of the organ are the remains of the line of attachment of the greater omentum, which has been cut away. Along the lesser curvature are the remains of the line of attachment of the lesser omentum.

About three centimetres of the duodenum are present, and has an opening three and one-half centimetres in diameter. Through this opening the pyloric valve is distinctly seen, with a circular opening one centimetre in diameter. There is a line of constriction on the posterior wall of the organ, midway between the cardiac and the pyloric portions, and extending from the greater to the lesser curvature. This area of depression is 1.5 centimetres below the level of the rest of the stomach at its deepest portion. At this point the stomach wall is extremely dense and firm, and has a white refractive appearance, the tissue appearing to be cicatricial tissue.

In the greater omentum, along its attachment at the point of depression, there are to be seen two or three enlarged lymph-glands, firm in consistency, ranging from eight to ten millimetres in diameter, and of a homogeneous gray-white color. These glands appear to be infiltrated with a new growth.

The enlarged lymphatic glands show varying changes in different portions of their substance. In some places the lymphatic structure is replaced by a dense area of connective tissue. In other places the gland structure is replaced by a new growth, which is of an alveolar type and consisting of small alveoli filled with epithelial cells similar to those already described in the stomach.

The walls of the organ vary in thickness from normal to 1.5 centimetres. The entire stomach wall is thickened, with the exception of a somewhat circular area, measuring four centimetres in diameter, and situated adjacent to the pylorus and along the greater curvature.

The mucosa of the thickened portion of the stomach wall varies in appearance in different places.

The area of greatest thickening corresponds to the outside groove above mentioned, and at this point the stomach wall is approximately one and one-half centimetres in thickness. This area of extreme thickness begins at a point three centimetres from the pylorus, and terminates four centimetres from the amputated edge of the organ. It completely encircles the organ over an area five and one-half centimetres in width.

Occupying the centre of this zone, and directly overlying the point of greatest depression of the external groove, is an almost square area of ulceration, measuring two and one-half by two centimetres. This has rather abrupt edges and a smooth, clean base.

The area of greatest thickening mentioned above completely surrounds this ulcer.

On section of this thickened area no definite new growth is shown, but a well-marked hypertrophy of all the coats of the organ. In the less thickened portion of the mucous membrane, also, there seems to be merely a hypertrophy of the mucous membrane and muscular tissue.

Anatomical Diagnosis.—Carcinoma of the stomach, originating in the floor of an old ulcer. Metastases to the omental glands.

Microscopical Appearances.—The portion of the stomach wall corresponding to the area of greatest thickening shows marked changes in all its coats. The mucous membrane shows in its deepest layer, immediately adjacent to the muscularis mucosa, collections of small, round lymphoid cells, of a sharply circumscribed character. The centres of some of these contain clear areas, made up of large epithelial cells and containing a few polynuclears, which resemble the germinal centres normally seen in the lymph-glands. The muscularis mucosa is markedly hypertrophied, but otherwise retains its normal type. The submucosa is also greatly thickened, and is much more compact than normal, being made up of rather dense connective tissue, containing a moderate amount of spindle-shaped cells and many thin-walled blood-vessels. The muscular coat shows the most marked change.

Only occasionally can patches of muscle be made out, almost the whole of the muscularis tissue having disappeared, and its place being taken by a rather dense connective tissue, similar to that just described in connection with the submucosa.

This connective tissue, which takes the place of the muscular coat, is directly continuous on the one hand with that replacing the submucous coat, and on the other hand with that of a much thickened peritoneal coat of a similar character.

In a few places of that portion of the connective tissue, corresponding to the deeper layers of the muscular coat, there can be made out small alveoli containing cells of an epithelioid type. These cells are irregularly round or oval, have a vesicular nucleus and a moderate amount of protoplasm.

The portions of the stomach wall which show less marked thickening exhibit essentially the same changes, the degree of change being less. In those areas the muscular coat is much better preserved, and the amount of new formed connective tissue much smaller.

Microscopical Diagnosis.—Same as anatomical.

The successful cases of Dr. Carl Schlatter, of Zurich, Dr. Charles Brooks Brigham, of San Francisco, and Dr. Maurice Howe Richardson, of Boston, have shown the possibility of removing the stomach in its entirety, without apparently causing any interference with nutrition. Stimulated by the knowledge furnished by these surgeons, I am able to report another successful case of gastrectomy.

Notwithstanding the fact that this operation is one surrounded with the heaviest responsibilities, and may at times assume difficulties in its execution which will tax the ingenuity of the most experienced, it would seem that in all cancerous states, where the conditions are at all favorable, that radical procedures should be recommended. When a diagnosis can be made that such a process is at work, the surgeon can only look forward to one termination, and therefore should shoulder the responsibility of doing work (which up to the present writing is surrounded with the highest mortality of perhaps any other operation) that may result in a permanent cure, or, if not, may bring about an amelioration of the difficulty and prolong life.

When the operation for the extirpation of a malignant growth in any other part of the body is undertaken, we do not regard it in high favor unless it can be attended to early. The moment it ceases to be a local issue and regional involvement occurs, brilliant results and lasting benefit will be the exception.

Most of our stomach cases have been operated when the patients have been exhausted and worn out by the inroads of the disease. If these cases could be secured when the new growth is in its infancy, I venture to say that the showing would be vastly changed. This assertion has, I think, been sufficiently exemplified in the successful cases recorded, all of which were very far advanced.

In our time, when the simple opening of the abdomen means so little, would it not be well to inspect directly all cases which possess a suspicious manifestation, and, if found operable, do radical work, just as is done in the breast and uterus, for instance? There are few states calling for more sympathy than the trying ordeal of a slow death from carcinoma of the stomach. The pain which is always present is only one of the many symptoms which makes the patient's remaining days those of misery.

When my patient entered the hospital, her weight was 79 pounds; on August 15, 100 pounds. This was certainly a substantial gain. She left the hospital June 25, 1899, after partaking of a dinner consisting of roast beef, mashed potatoes, one glass of milk, ice-cream, and a small cup of coffee. Her appearance was one of happiness, and her feelings those of perfect comfort, every vestige of stomach distress having vanished. The only inconvenience which she speaks of is a sense of pulling in the epigastrium, when she lies perfectly flat on her back, with her legs straightened out, which is possibly due to the tension caused by the junction of the duodenum and the œsophagus. On returning to her home she immediately assumed the responsibility of her household work, attending to all its details except washing.